1. In the below elements which of them are values or an expression? eg:- values can be integer or string and expressions will be mathematical operators.

\* - expression

'hello' - value

-87.8 - value

- - expresssion

/ - expression

* -expresssion

6 -value

2. What is the difference between string and variable?

A string is a sequence of characters. It is a data structure which is immutable and enclosed in single quotes or double quotes.

Variables are the reserved memory locations used to store values in a program. A python variable is a name given to a memory location. It is a basic unit of storage in a program. In python one need not to declare variable before using them or declare their type.

3. Describe three different data types.

List – Python lists are dynamically sized array. It is used to store the sequence of various type of data. It is a collection of value or items of different type. To create list we use [] operator.

Tuples- Tuples are used to store multiple items in a single variable. It is a collection of object separated by commas. Main difference between list and tuple is that tuple is immutable and list is mutable. To create tuple we use () operator.

Dictionary- It is a collection of key values, used to store values like map. Values in a dictionary can be of any data type and can be duplicated whereas keys cannot be repeated and must be immutable.

4. What is an expression made up of? What do all expressions do?

Expressions are made-up of operators and operands. An expression is interpreted to produce some other value. Expression is evaluated as per precedence of its operator.

5. This assignment statements, like spam = 10. What is the difference between an expression and a statement?

Statement is used for creating variables or for displaying values. The expression in python produces some value or result after being interpreted by python interpreter.

A statement is not evaluated for some results. An expression is evaluated for some results.

6. After running the following code, what does the variable bacon contain?

bacon = 22

bacon + 1

ans=22

7. What should the values of the following two terms be?

'spam' + 'spamspam' = spamspamspam

'spam' \* 3 = spamspamspam

8. Why is eggs a valid variable name while 100 is invalid?

Variable name must start with letter, underscore. Variable can contain alphanumeric characters and underscore.

9. What three functions can be used to get the integer, floating-point number, or string version of a value?

int( ), float( ), str( ) evaluate to integer, float and string.

10. Why does this expression cause an error? How can you fix it?

'I have eaten ' + 99 + ' burritos.'

Concatenation of string is possible but not with integer. String can only be concatenated with strings only.

To fix this issue one can change the integer value to string value.

'I have eaten ' + ’ 99’ + ' burritos.'